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From: Pellegrini, Janet
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Subject: RE: AEC/Bennoc Draft NPDES

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Here are my summary notes from yesterday's call, and the evaluations that we will do before issuing the permit. Let me know if I missed anything.

Item 1 – Pollutants regulated: We use TDS to regulate chronic toxicity; we are willing to use either sulfate or acute toxicity using Ceriodaphnia. To assess the need for TDS, we reviewed and accepted the company's WLA to meet both the TDS criterion and antidegradation requirements in Piney Creek. We found that the discharge has the reasonable potential to exceed TDS WQ criteria in the unnamed tributaries of Piney Creek, and wrote permit conditions to limit chronic exposures instead of including numeric limits.

Region V expressed a preference for using sulfate limits to regulated potential acute toxicity, rather than using Ceriodaphnia toxicity tests. Since the permit is written this way, this not a problem, at least conceptually. Ohio is working to add the sulfate criteria formulas to its aquatic life criteria under OAC 3745-1-36 or similar rule authority.

Items 2 and 11 – Piney Creek Use Designations and Attainment Status: Ohio's Biological and Water Quality Report classifies Piney Creek as impacted by mining discharges, but not impaired. The Use Attainment Table in this report shows that Piney Creek near the mouth is in full attainment of Coldwater Habitat biological standards. While TDS-sensitive mayfly taxa are absent at this location, enough other coldwater species are present to classify the site as fully attaining the use. The site is considered impacted because macroinvertebrate communities in lower Piney Creek are significantly less diverse than those in similar Captina Creek tributaries. Most other tributaries have exceptional macroinvertebrate communities; Piney Creek's bugs are just rated good.

Also, Piney Creek is not designated or used as a Public Water Supply. Region V staff may have been looking at designations for another Piney Creek in the watershed.

Items 3, 9 and 15 – Discharge Duration Limit: The 48-hour duration limit in the draft permit is based on the standard acute toxicity test duration for macroinvertebrate species (48-hours). Exposure times longer than this period are assumed to be chronic exposures. Also, the limit is based on the factors contributing to toxicity – the duration, frequency and magnitude of exposure to toxicants. Since TDS is difficult to treat, other options to limit toxicity make be more cost-effective. It should be true that reducing the exposure duration will remove a chronic

exposure to the toxicity of TDS, and make limits unnecessary. Limiting the duration to 48 hours may be easier for the company to meet than treating or diluting to meet 1500 mg/l TDS in the tributaries.

Region V pointed out that it may be possible for a discharge to occur in 4 days out of 6 and still meet the 48-hour duration requirement during a week. We agree that this situation would represent a chronic exposure, and will review the permit language to ensure a recovery period. Ohio EPA is willing to consider a longer recovery period if U.S. EPA has data to suggest that it should be longer. Ohio is not aware of any studies of mayfly recovery time.

Items 4 and 8 – Pond freeboard and PTI requirements: Ohio acknowledges that American Energy may need to modify the ponds to meet a discharge duration requirement. We envision that plans will be updated prior to discharge if the ponds cannot meet permit conditions. However, Ohio does not want to ask for a PTI revision now because a new PTI would start the antidegradation process over, delaying approval of the project.

As drafted the permit does allow the facility to completely empty a pond during a discharge event. This action may or may not meet WQS in Piney Creek. Ohio EPA will review the WLA and permit conditions to make sure that permit conditions protect Piney Creek. This may involve setting loading or flow limits.

Item 5 – OMZM/IMZM Multiplier: The 1.3X multiplier between OMZM and IMZM that exists in the criteria formulas was not used in drafting the permit limits for sulfate. The sulfate limits in the draft permit are OMZM values applied at the discharge to protect the unnamed tributaries of Piney Creek.

Item 6 – Monitoring Frequency Differences Between Outfalls: The draft permit contains typographical errors. The monitoring frequencies for both outfalls should be 2/week.

Items 7, 13 and 14 – Sulfate WQ Criteria and WLA: Region V questioned whether the sulfate criteria were correctly calculated, noting that instream values for hardness and chloride should be used to calculate criteria, not effluent values. Ohio believes that the criteria are accurate for the unnamed tributaries of Piney Creek, as these streams are effluent dominated. We agree that Piney Creek WQ criteria for sulfate should be calculated using instream hardness and chloride. Ohio will review the Piney Creek WLA to determine whether the draft permit limits for sulfate protect WQS in Piney Creek and will make adjustments to the limits if they are not protective.

Ohio believes that if the WLA values are met, the WQ criteria in Piney Creek will be protected.

Item 10 – Flow or Volume Limits: The permit does allow the company to empty the entire pond during a 48-hour discharge event. Region V believes that WQS may not be protected if discharge volumes are not regulated. Ohio agrees that permit conditions need to be more specific in this area. We will add loading or flow limits to ensure that the WLA conditions are maintained.

Item 12 – Flow Monitoring Equipment: Region V requested that the permit spell out flow monitoring equipment and an associate operation and maintenance plan. Ohio had anticipated the company making improvements to their flow estimation capability in the upcoming PTI. We believe that the PTI is the best place to regulate this kind of requirement, although we are considering specifying methods of flow estimation in the permit. Region V requested to review

the PTI when it is submitted, and Ohio agrees to forward the PTI application when we receive it.